AMENDMENTS TO THE CLAIMS

Please cancel claims 1-11, and add new claims 12-25, as follows:

Claims 1-11.(cancelled)

12. (new) A polymerization catalyst, comprising:

chromium on a support,

wherein the amount of said chromium on said support is between about 0.5 and 5 weight percent based on the weight of said support,

wherein said support comprises silica, in major part, and titanium,wherein the amount of titanium in said support is between about 3.5 and 10 weight percent based on the weight of said support,

wherein said support has a surface area between about 400 and 800 square meters per gram and a pore volume between about 1.8 and 4 cubic centimeters per gram.

13. (new) The catalyst of claim 12, wherein said catalyst is activated at a temperature between about 600°F and 1100°F in the presence of an oxidizing ambient.

14. (new) The catalyst of claim 12, wherein said catalyst is activated at a temperature between about 700°F and 1100°F in the presence of an oxidizing ambient.

15. (new) The catalyst of claim 12, wherein said amount of said chromium is between about 1 and 4 weight percent.

16. (new) The catalyst of claim 12, wherein said amount of said chromium is between about 1.5 and 3 weight percent.

17. (new) The catalyst of claim 12, wherein said amount of said titanium is between about 4 and 8 weight percent.

18. (new) The catalyst of claim 12, wherein said amount of said titanium is between about 4 and 6 weight percent.

19. (new) The catalyst of claim 12, wherein said support has a surface area between about 425 and 700 square meters per gram.

20. (new) The catalyst of claim 12, wherein said support has a surface area between about 450 and 650 square meters per gram.

21. (new) The catalyst of claim 12, wherein said support has a pore volume between about 1.9 and 3 cubic centimeters per gram.

22. (new) The catalyst of claim 12, wherein said support has a pore volume between about 2 and 2.7 cubic centimeters per gram.

23. (new) The catalyst of claim 12, wherein said support consists essentially of silica and titanium.

24. (new) A polymerization catalyst, comprising

chromium on a support,

wherein the amount of said chromium on said support is between about 0.5 and 5 weight percent, wherein said support consists essentially of silica and titanium, wherein said support comprises between about 3.5 and 10 weight percent titanium based on the weight of the support, wherein said support has a surface area between about 400 and 650 square meters per gram, and wherein said support has a pore volume between about 2 and 2.7 cubic centimeters per gram.

25. (new) The catalyst of claim 24, wherein said catalyst is activated at a temperature in the range of between about 600°F and 1100°F in the presence of an oxidizing ambient.